CLAIMS

1. (currently amended) A method for reducing spurious emissions in an amplified signal, comprising the steps of:

(a) receiving an input signal; and

(b) applying frequency-dependent phase pre-distortion to the input signal to generate a pre-distorted output signal, wherein the frequency-dependent phase pre-distortion is based on at least one corresponding phase difference between at least one pair of critical frequencies, such that, when the pre-distorted output signal is applied to an amplifier to generate the amplified signal, the frequency-dependent phase pre-distortion reduces spurious emissions in the amplified signal.

2. (original) The invention of claim 1, wherein step (b) comprises the steps of:

(1) generating a main output signal from the input signal;

(2) generating one or more frequency-dependent phase pre-distortion signals from the input signal; and

(3) advancing or delaying each frequency-dependent phase pre-distortion signal relative to the main output signal; and

(4) combining each advanced or delayed frequency-dependent phase pre-distortion signal with the main output signal to generate the pre-distorted output signal.

3. (original) The invention of claim 2, wherein step (b)(1) comprises the step of applying frequency-independent magnitude and phase pre-distortion to the input signal to generate the main output signal.

4. (original) The invention of claim 2, wherein each frequency-dependent phase pre-distortion signal is based on a corresponding phase difference between a pair of critical frequencies.

5. (original) The invention of claim 4, wherein step (b)(3) comprises the step of advancing or delaying each frequency-dependent phase pre-distortion signal relative to the main output signal based on the frequency difference between the corresponding pair of critical frequencies.

6. (original) The invention of claim 4, wherein step (b)(2) comprises the step of generating two or more different frequency-dependent phase pre-distortion signals from the input signal based on two or more different pairs of critical frequencies.

7. (original) The invention of claim 1, wherein the input signal is a baseband signal and the frequency-dependent phase pre-distortion is applied in the baseband domain.

8. (original) The invention of claim 1, wherein the input signal is an RF signal and the frequency-dependent phase pre-distortion is applied in the RF domain.

9. (original) The invention of claim 1, wherein the frequency-dependent phase pre-distortion is based on data retrieved from one or more look-up tables.

10. (original) The invention of claim 9, wherein the one or more look-up tables are adaptively updated according to control signals generated based on the amplified signal.

11. (original) The invention of claim 1, wherein:

step (b) comprises the steps of:

(1) applying frequency-independent magnitude and phase pre-distortion to the input signal to generate a main output signal;

(2) generating one or more frequency-dependent phase pre-distortion signals from the input signal, wherein each frequency-dependent phase pre-distortion signal is advanced or delayed relative to the main output signal based on the frequency difference between the corresponding pair of critical frequencies; and

(3) advancing or delaying each frequency-dependent phase pre-distortion signal relative to the main output signal; and

(4) combining each advanced or delayed frequency-dependent phase pre-distortion signal with the main output signal to generate the pre-distorted output signal;

each frequency-dependent phase pre-distortion signal is based on a corresponding phase difference between a pair of critical frequencies;

the frequency-dependent phase pre-distortion is based on data retrieved from one or more look-up tables, wherein the one or more look-up tables are adaptively updated according to control signals generated based on the amplified signal

12. (original) The invention of claim 11, wherein step (b)(2) comprises the step of generating two or more different frequency-dependent phase pre-distortion signals from the input signal based on two or more different pairs of critical frequencies.

13. (original) The invention of claim 11, wherein the input signal is a baseband signal and the frequency-dependent phase pre-distortion is applied in the baseband domain.

14. (original) The invention of claim 11, wherein the input signal is an RF signal and the frequency-dependent phase pre-distortion is applied in the RF domain.

15. (currently amended) An apparatus for reducing spurious emissions in an amplified signal, wherein the apparatus is configured to:

(a) receive an input signal; and

(b) apply frequency-dependent phase pre-distortion to the input signal to generate a pre-distorted output signal, <u>wherein the frequency-dependent phase pre-distortion is based on at least one corresponding phase difference between at least one pair of critical frequencies,</u> such that, when the pre-distorted output signal is applied to an amplifier to generate the amplified signal, the frequency-dependent phase pre-distortion reduces spurious emissions in the amplified signal.

16. (original) The invention of claim 15, wherein the apparatus comprises:

(a) a main signal processing path configured to generate a main output signal from the input signal;

(b) one or more frequency-dependent phase pre-distortion paths configured to generate one or more frequency-dependent phase pre-distortion signals from the input signal;

(c) one or more delay blocks configured to advance or delay each frequency-dependent phase pre-distortion signal relative to the main output signal; and

(4) a combiner configured to combine each advanced or delayed frequency-dependent phase pre-distortion signal with the main output signal to generate the pre-distorted output signal.

17. (original) The invention of claim 16, wherein the main signal processing path is configured to apply frequency-independent magnitude and phase pre-distortion to the input signal to generate the main output signal.

18. (original) The invention of claim 16, wherein each frequency-dependent phase pre-distortion signal is based on a corresponding phase difference between a pair of critical frequencies.

19. (original) The invention of claim 18, wherein the one or more delay blocks advance or delay each frequency-dependent phase pre-distortion signal relative to the main output signal based on the frequency difference between the corresponding pair of critical frequencies.

20. (original) The invention of claim 18, comprising two or more frequency-dependent phase pre-distortion paths configured to generate two or more different frequency-dependent phase pre-distortion signals from the input signal based on two or more different pairs of critical frequencies.

21. (original) The invention of claim 15, wherein the input signal is a baseband signal and the apparatus applies the frequency-dependent phase pre-distortion in the baseband domain.

22. (original) The invention of claim 15, wherein the input signal is an RF signal and the apparatus applies the frequency-dependent phase pre-distortion in the RF domain.

23. (original) The invention of claim 15, wherein the apparatus retrieves data for the frequency-dependent phase pre-distortion from one or more look-up tables.

24. (original) The invention of claim 23, wherein the apparatus adaptively updates the one or more look-up tables according to control signals generated based on the amplified signal.

25. (currently amended) A machine-readable medium, having encoded thereon program code, wherein, when the program code is executed by a machine, the machine implements a method for reducing spurious emissions in an amplified signal, comprising the steps of:

(a) receiving an input signal; and

(b) applying frequency-dependent phase pre-distortion to the input signal to generate a pre-distorted output signal, wherein the frequency-dependent phase pre-distortion is based on at least one corresponding phase difference between at least one pair of critical frequencies, such that, when the pre-distorted output signal is applied to an amplifier to generate the amplified signal, the frequency-dependent phase pre-distortion reduces spurious emissions in the amplified signal.

26. (new) A method for reducing spurious emissions in an amplified signal, comprising the steps of:

(a) receiving an input signal; and

(b) applying frequency-dependent phase pre-distortion to the input signal to generate a pre-distorted output signal, such that, when the pre-distorted output signal is applied to an amplifier to generate the amplified signal, the frequency-dependent phase pre-distortion reduces spurious emissions in the amplified signal, wherein step (b) comprises the steps of:

(1) applying frequency-independent magnitude and phase pre-distortion to the input signal to generate a main output signal;

(2) generating one or more frequency-dependent phase pre-distortion signals from the input signal; and

(3) advancing or delaying each frequency-dependent phase pre-distortion signal relative to the main output signal; and

(4) combining each advanced or delayed frequency-dependent phase pre-distortion signal with the main output signal to generate the pre-distorted output signal.

27. (new) An apparatus for reducing spurious emissions in an amplified signal, wherein the apparatus comprises:

(a) a main signal processing path configured to apply frequency-independent magnitude and phase pre-distortion to the input signal to generate a main output signal;

(b) one or more frequency-dependent phase pre-distortion paths configured to generate one or more frequency-dependent phase pre-distortion signals from the input signal;

(c) one or more delay blocks configured to advance or delay each frequency-dependent phase pre-distortion signal relative to the main output signal; and

(4) a combiner configured to combine each advanced or delayed frequency-dependent phase pre-distortion signal with the main output signal to generate a pre-distorted output signal, such that, when the pre-distorted output signal is applied to an amplifier to generate the amplified signal, the frequency-dependent phase pre-distortion reduces spurious emissions in the amplified signal.